

IN THE CLAIMS:

Please amend Claims 7 and 18, as follows. A marked-up copy of that claim, showing the changes made thereto, is attached. For the Examiner's convenience, all of the claims currently under consideration are provided below.

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7. (Amended) A diffraction optical element in which a plurality of diffraction gratings are laminated, comprising:

a first diffraction grating which is formed on a curved surface with a material of a predetermined dispersion, wherein an imaginary surface including tips of grating portions of said first diffraction grating is a curved surface; and

a second diffraction grating which is formed on a curved surface with a material of a dispersion different from that of said first diffraction grating and adjacent to said first diffraction grating, wherein an imaginary surface including tips of grating portions of said second diffraction grating is a curved surface,

wherein the pitches at positions of tips of corresponding grating portions of said first and second diffraction gratings are equal over the area of use.

8. A diffraction optical element according to Claim 7, wherein substrates on which said diffraction gratings are formed are joined together in the non-grating area of each of said diffraction gratings.

9. A diffraction optical element according to Claim 7, wherein at least one of said laminated diffraction gratings has at least one diffraction grating differing from it in the direction of the grating shape of the grating portion.

10. A diffraction optical element according to Claim 7, wherein the wavelength area used is a visible range.

11. A diffraction optical element according to Claim 7, wherein at least one of said plurality of diffraction gratings is such that the material forming said diffraction gratings is the same as the material forming a substrate on which said diffraction gratings are provided.

12. A diffraction optical element according to Claim 11, wherein said substrate has lens action.

13. A diffraction optical element according to Claim 7, which is formed on a cemented surface of a cemented lens.

14. A diffraction optical element according to Claim 7, wherein said plurality of diffraction gratings are laminated so that the diffraction efficiency of a particular order may heighten in the entire wavelength area used.

15. An optical system using the diffraction optical element according to Claim 7.

16. An optical system according to Claim 15, which is an imaging optical system.

17. An optical system according to Claim 15, which is an observation optical system.

18. (Amended) A diffraction optical element according to Claim 7, wherein said first and second diffraction gratings are disposed via an air layer.

REMARKS

In view of the above amendments and the following remarks, Applicant requests favorable reconsideration and allowance of the above-identified application.

Claims 1-18 remain pending in this application. Claims 1-6 have been withdrawn from consideration. Of the claims still under consideration, Claim 7 is the sole independent claim. By this Amendment, Applicant has amended Claims 7 and 18.

Claims 7-12 and 14-17 stand rejected under 35 U.S.C. § 102(e) over U.S. Patent No. 6,157,488 (Ishii). Claim 13 stands rejected under 35 U.S.C. § 103 over the Ishii